

Baja on ice ■ 10 tips for your business start-up ■ Tackling the last taboo

Michigan Tech

MAGAZINE

Fall 2012 ■ Volume 49, Number 2







Michigan Tech

- 4** 1400 Townsend Drive
News from Michigan Tech
- 8** UpLode
Students in their own words
- 9** Wolf man
- 12** A one-stop shop for budding businesses
How Michigan Tech and the SmartZone help local entrepreneurs get a toehold
- 15** Blizzard Baja
A frozen dress rehearsal for the dusty and muddy games of summer
- 18** Tackling the last taboo
In a country where feminine pads can cost a week's wages, a Peace Corps volunteer's simple, sanitary solution ignites a blast of girl power in Uganda.
- 20** Back to school
Free tutoring brings local senior citizens into the digital age
- 22** Amazing feats of engineers
Three more of your stories
- 24** From the Alumni Association
- 31** Class notes
- 34** In memoriam

Cover

As leader of the Yellowstone Wolf Project, Doug Smith '88 has tranquilized and collared hundreds of wolves like this behemoth from Delta Pack. These captivating carnivores draw thousands of eco-tourists to the park every year, even as they inspire loathing among many area residents.

DAN STAHLER/NATIONAL PARK SERVICE PHOTO

Inside cover

Michigan Tech President Glenn D. Mroz addresses the crowd during dedication ceremonies for the Great Lakes Research Center.

Editor

Marcia Goodrich

Graphic Designer

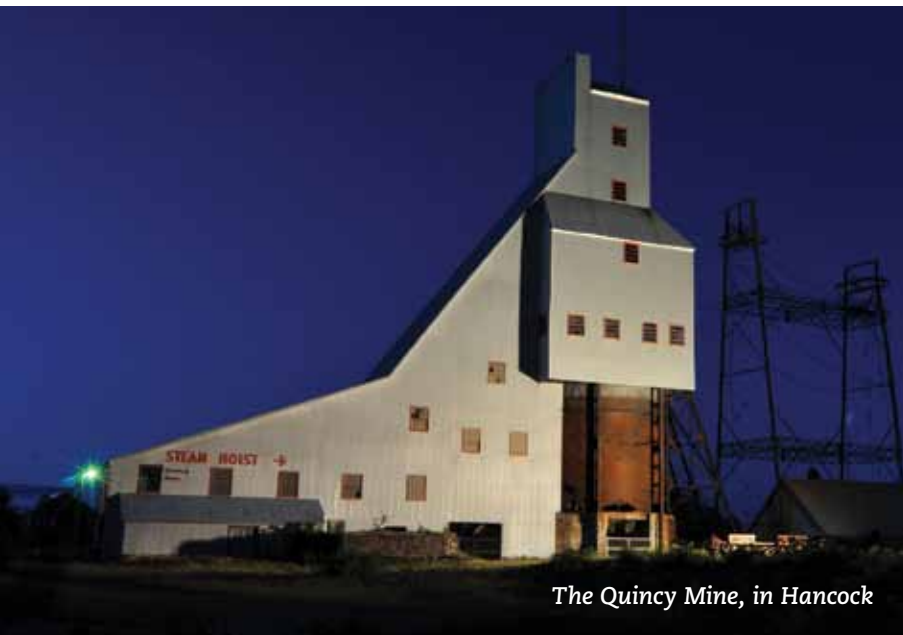
Clare Rosen

Photographer

Sarah Bird

1400 Townsend Drive

NEWS FROM MICHIGAN TECH



The Quincy Mine, in Hancock

Mining engineering program reborn

Michigan Tech's bachelor's program in mining engineering, which was suspended in 2003, is back in business. Beginning this fall, students can enter the new Bachelor of Science in Engineering program with a technical emphasis in mining engineering. This is the first step toward a full-fledged BS in Mining Engineering.

"It's not your grandfather's mining anymore," says Wayne Pennington, chair of geological and mining engineering and sciences. "Mining today is so different, and this new program will be tailored to that."

"It's part of our heritage, and it's part of the future, too," added Leonard Bohmann, associate dean of engineering. "There's a definite need for mining engineers, now and into the future. We are positioned where we can help fill that need."

Tech Mind Trekkers bring fun science to the Capitol Mall

Children visiting the Michigan Tech Mind Trekkers exhibit at the second USA Science & Engineering Festival at the Washington Convention Center could hurl a ping pong ball right through a soda can—learning for themselves the physics of air pressure.

The ping pong cannon is just one of more than a dozen mind-blowing science and engineering demonstrations that Mind Trekkers brought to the nation's largest celebration of science and engineering in April.

An offshoot of Michigan Tech's Pre-College Outreach program, Mind Trekkers has grown into a thriving venture. Student volunteers have taken the road show all over the country. Director Steve Patchin estimates that so far, hundreds of thousands of school children and parents have been captivated by the Mind Trekkers' science spectacular.



During a Mind Trekkers exhibit, students fool around with oobleck, a mix of cornstarch and water that acts like both a liquid and a solid.

New mineral named for Seaman Museum curator

A new mineral discovered in Arizona has been named geogerobinsonite—after George W. Robinson, professor of mineralogy and curator of Michigan Tech’s Seaman Mineral Museum. It is a lead chromate—a salt of chromic acid—that occurs as minute, transparent, orange-red crystals on cerussite, another lead carbonate and secondary lead mineral.

What did Robinson do to earn such an honor? Well, he didn’t discover the mineral. It is a convention in the profession not to name new minerals for their discoverers, said Frank Hawthorne of the University of Manitoba, who was involved in geogerobinsonite’s discovery. They decided to name it for Robinson because “George is a prominent curator who has contributed a lot to the mineral community,” Hawthorne said.



Minerick honored for innovative teaching

Adrienne Minerick ’98, an associate professor of chemical engineering, has received the 2012 Fredrick D. Williams Instructional Innovation Award, which recognizes new approaches to instruction.

Nominators cited Minerick’s numerous innovations, including a combined undergraduate and graduate class, with differing expectations based on the students’ grade level. Such forward thinking has allowed her “to re-energize our core graduate program courses,” wrote one nominator.



Will Cantrell, Roger Woods receive Distinguished Teaching Awards

“Office hours” are an elastic concept for both of Michigan Tech’s 2012 Distinguished Teaching Award winners: Will Cantrell, an associate professor of physics, and Roger Woods, a lecturer in the School of Business and Economics. “I’m on IM from 8:00 to 10:00 PM,” Woods said. “That’s when my students are doing homework. When they get stuck, I help them get unstuck.”

His students wrote, “He never lets a student fall behind if the student is putting their 100 percent effort into the course”; and “He is the BEST teacher that I have ever had, period.” As for Cantrell, “His office is always open,” says physics department chair Ravi Pandey. “I’ve seen him here on Saturday and Sunday working with students.”

Students appreciate Cantrell’s dedication. Said one, “He demonstrates the quality of a teacher who cares about his students and the subject and goes above and beyond that to help us. He is ALWAYS willing to help explain things outside of class.”

Archaeologist, chemical engineer unite in a war on rust

Rust is the bane of industrial archaeologists, who can only watch in dismay as iron artifacts dissolve into flaky red nothingness. With funding from the National Park Service, archaeologist Tim Scarlett and chemical engineering professor Gerard Canaba are investigating two new rust-prevention strategies: using highly pressurized carbon dioxide to displace water in iron artifacts' pores and fissures; and impregnating objects with a coating of benign polymers that would prevent the absorption of water.

Boom time in Clintonville

Starting March 18, the police of Clintonville, Wisconsin, began receiving calls from alarmed residents reporting deep, rumbling sounds of unknown origin.

Michigan Tech geologist Greg Waite and graduate students Josh Richardson and Kathleen McKee volunteered to help find out what the heck was going on. They traveled south to install four seismometers and eight sound sensors around town, just in time to record a small earthquake on March 29.

For Clintonville, it was a remarkable moment. As of April 26, reporters noted that a few "I Survived the 1.5" T-shirts were still for sale at City Hall and Clintonville businesses.

A matter of degree(s)

Michigan Tech is launching several new degree programs this fall. The **PhD in Biochemistry and Molecular Biology** is an interdepartmental program that builds on courses in the Departments of Biological Sciences and Chemistry and the School of Forest Resources and Environmental Science.

The **MS degrees in Biomedical Engineering and Medical Informatics** address advanced technology needs in the field of medicine.

The **BA in Physics** and the **BA in Physics with a concentration in secondary education** create new, flexible tracks for physics majors.

And Michigan Tech and Central Michigan University are partnering to offer CMU's **PhD in Physical Therapy** program at Michigan Tech in the near future. The program will help meet a critical need for physical therapists in the Upper Peninsula.



Left to right, Jake Edick and Jon Stinson of sponsor Boston Scientific with three members of the winning Senior Design team: Thomas Faulkner, David Strobel, and Matt Gardeski.

PHOTO: EMIL GROTH

Undergrad Expo highlights student research

More than fifty Senior Design and two dozen Enterprise teams participated in the Undergraduate Expo, held April 12.

Taking first place in the Senior Design category was the project "Bioabsorbable Polymer-Coated Metal Stent Degradation Simulation Design." The students devised a better way to check for the degrading of stents, which are inserted into arteries to help maintain blood flow.

First place in the Enterprise category went to ITOxygen, which is involved in software development for a number of customers, including Blue Sky Health in Houghton and CCI Systems of Iron Mountain.



New ice for MacInnes Student Ice Arena

Tech played its first game at the Student Ice Arena on January 14, 1972, and forty years later, the hockey rink got a new ice plant, the system and equipment needed to make and keep ice. The \$1.2 million project replaces the original Freon 22 direct system with a more environmentally friendly, industry-standard ammonia brine indirect system.

After demolishing the old system (the Freon was reclaimed), the arena floor was fitted with heating piping to prevent permafrost followed by a layer of sand and a layer of foam insulation. The web of pipes for refrigeration lies above the insulation, with a new six-inch-thick concrete slab on top.

An estimated 13 miles of piping snake under the 302 cubic yards of concrete that filled the 200-by-85-foot ice arena floor.

The new plant made ice during the last week of July, a week ahead of schedule.

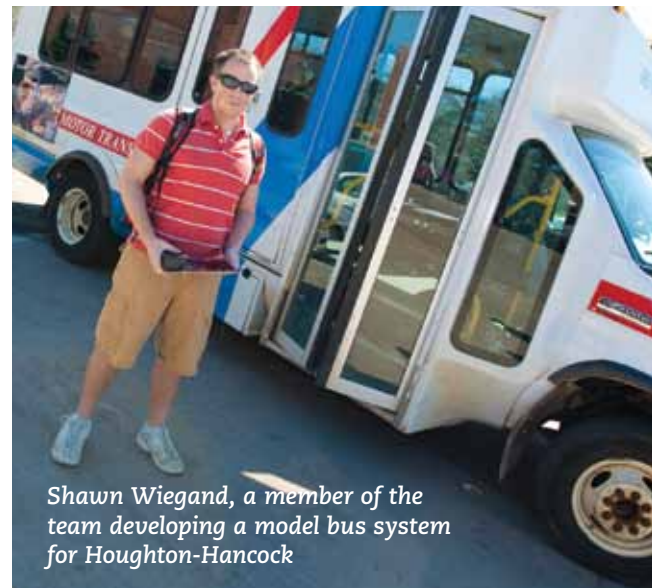
A better way to bus

Students in two Enterprises are designing a bus system that they hope will really work for Houghton, Hancock, and the University community—especially its students. Each city already has its own bus system, but they operate independently.

The Transportation Enterprise is determining where people need to go around town and when they need to be there, with the goal of developing the most convenient routes and schedules.

The Automotive Computing Enterprise has developed an Android app that will let riders pinpoint where a bus is on the route. A similar app for iPhones is under construction. The students also envision kiosks at bus stops, where information would be available via liquid crystal displays.

The effort is supported by a \$50,000 Ford College Community Challenge grant.

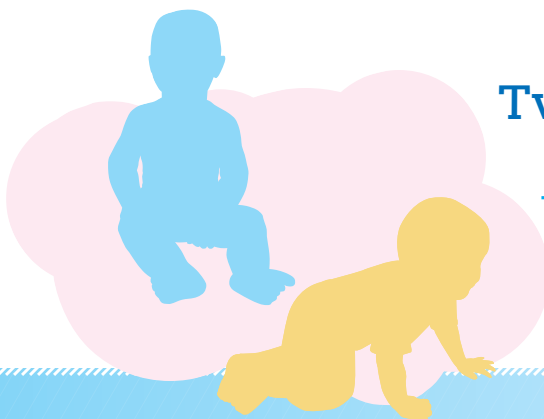


Shawn Wiegand, a member of the team developing a model bus system for Houghton-Hancock

Two new benefits for Tech parents

A lactation room for nursing mothers was established on the second floor of the Hamar House, the former home of Counseling Services. It joins similar facilities in the Administration Building, the Electrical Energy Resources Center, and the Great Lakes Research Center.

And, postdoctoral fellows who give birth to or adopt a child are eligible for six weeks of paid maternity leave.



UpLode



Ever wonder what today's students are reading? One good place to find out is the *Lode*. We pulled lines (almost) randomly from a few stories that illustrate what matters to students, from the weather (not snowy enough to ski) to a recent Supreme Court decision (two thumbs up).

At commencement this spring, the new green is black.

From "Green Graduation," on Tech's decision to use caps and gowns made from recycled pop bottles. "Commencement is part of Tech's plan for sustainability," wrote *Lode* writer Nicole Iutzi. (April 10)

"With only trace amounts of snow early last December, the Michigan Tech Nordic Skiing teams were forced to continue with dry-land practices . . ."

From *Lode* writer Ellie Furmanski's "First Home Meet of the Season for Nordic Skiing Teams." Editor's note: We only had 132 inches last winter, compared to an average of 208. (February 7)

"Just because information can be obtained doesn't mean we shouldn't have a reasonable expectation that it will be private."

Columnist Elijah Haines, on the Supreme Court decision that blocks police from planting GPS units on suspects and tracking them without a warrant (January 31)

Childhood duties included cleaning out the spittoons . . .

In a retrospective on one of the Copper Country's most iconic watering holes, *Lode* writer Sawyer Newman recounts Bernard Shute's boyhood memories in "History of Shute's Bar." (February 28)

"MUB Board Euchre Tournament a Success."

It was standing-room-only in the Memorial Union Ballroom, *Lode* writer Abigail Dillon tells us. (January 31)

"It cost us \$16,000."

A new soundboard, purchased as part the major renovation project detailed in *Lode* writer Katelyn Waara's story "WMTU Gets a Makeover." It's part of a new audio-over-IP system, and WMTU is the first station in Houghton to get one. (February 28)

"In retrospect, something like this was bound to happen eventually."

Columnist Nick Blecha in "The Pokémon Yellow Imposter," about a fake app that rose to No. 3 in downloads before being removed from the Apple App Store (February 28)

"Eating when you're bored is something every college student should stay away from."

Sound advice for everyone, courtesy of guest writer Katelyn Waara's "Quick Tips Every New College Student Should Know" (January 17)



Doug Smith cradles Ms. 478F, the alpha female of Yellowstone National Park's Cougar Creek Pack. The wolves are tranquilized and then collared to track their movements.

Wolf man

by David McKay Wilson

Eco-tourists are lined up on a roadside in Yellowstone National Park's Lamar Canyon to witness two wolf packs jockeying for territory, and wildlife biologist Doug Smith '88 is nearby with a TV crew shooting footage of the predator that has captivated mankind for eons.

“They tell me I’ve ruined their lives, and I get the feeling that they hate me. It’s a true clash of values. And the most frustrating thing is that facts don’t seem to matter.”

It’s been seventeen years since Smith helped launch the effort to restore wolves to the 2 million-acre park. Today, an estimated ninety-eight wolves in ten packs thrive in Yellowstone. On this crisp February morning, the lanky Smith, dressed in his green wool Park Service uniform with a pair of Nikon binoculars dangling from his neck, talks about how wolves have reacted to the decline in the park’s elk herd, their prime prey.

“The wolves and elk are coming into equilibrium as the park’s getting restored to its natural condition,” says Smith, 51, project leader of the Yellowstone Gray Wolf Restoration Project. “Initially, we had an overpopulation of elk and a surplus of food for the wolves. We now have a leaner, meaner elk herd, and the wolves are having a harder time of it.”

Wolves were eradicated from the park, and much of the West, in the early twentieth century. The restoration of wolves to Yellowstone is viewed by wildlife experts as one of America’s greatest successes in wildlife management, with the gray wolf off the endangered species list and the Yellowstone ecosystem more like it was before Europeans settled the continent five centuries ago.

Smith’s success, however, has run up against virulent anti-wolf sentiment throughout the West, which remains a potent force in policy debates on the state and federal levels. Smith often speaks at community meetings and addresses the deep-seated antipathy many have toward the predator, which has a history of occasionally killing cattle and sheep. Smith counters with scientific studies that show that wolves rarely dine on domesticated animals.

“It can be exceedingly unpleasant,” says Smith. “They tell me I’ve ruined their lives, and I get the feeling that they hate me. It’s a true clash of values. And the most frustrating thing is that facts don’t seem to matter.”

Smith gets to know the wolves up close and in person when he goes out to collar them as part of the Yellowstone research team’s study. The radio-transmitter collars, which last about three years, provide extensive data on wolves’ natural lives in the park.

But collaring a wolf is not for the faint-hearted.

To do so, Smith, who has handled and collared more than 400 wolves, goes up with a pilot in a helicopter, strapped in a harness, with the door off, aiming a rifle loaded with tranquilizing darts.

They’ll spot a pack and fly in low to chase the wolves, which can run 35 miles an hour.

“They juke and jive to avoid us,” says Smith. “Some will stop dead in their tracks to avoid us as we fly over. The females are the hardest to catch. They are faster than the males. It can be very hard to re-collar. There was one female I couldn’t get for two years. But we finally collared her in the third year. She was getting old.”

Smith, who lives in Bozeman, Montana, with his wife, Christine, and sons, Hawken, 6, and Sawyer, 8, says studying wolves for so long has also taught him about child rearing. Wolves, he says, are infinitely patient with the pups, tending to their every need and never reprimanding them.

Smith’s fascination with all things wild dates back to his own childhood in northeastern Ohio, where his parents ran a summer camp with 100 horses. In high school he discovered his love for wolves while volunteering in a Purdue University study of captive wolves in northern Indiana. He helped raise four pups, caring for them around the clock—feeding, cleaning up, even sleeping with them.

That experience led him to Rolf Peterson, the Michigan Tech wildlife biologist leading the wolf-moose study on Isle Royale National Park.

Peterson recalls receiving a letter from Smith, then a high school student, looking for an internship. Smith was hired as a research assistant and joined Peterson on the Lake Superior island, where scientists have been studying the relationship between wolves and moose since 1958.

Smith headed to the University of Idaho for his undergraduate studies, but over the next fifteen years he returned annually to Isle Royale, leading several weeklong backpacking trips with volunteers collecting evidence in the wolf-moose study. And he returned to Michigan Tech to earn a master’s degree in biological sciences under Peterson’s instruction, focusing his research on the beavers of Voyageurs National Park, in Minnesota.

Smith and Peterson still keep in touch, both on their research and the politics swirling around it.

“Doug has done an outstanding job in a very difficult position,” says Peterson. “He has to deal with the bureaucracy of Yellowstone, which is huge, and deal with the external influence, which is negative, while keeping the science going at a time of funding challenges.”



Members of the Druid Wolf Pack gather on a wind-blown outcrop of rock in Yellowstone's Lamar Valley.

In Smith's office, located in a building that once housed the military on America's western frontier, you catch a glimpse of his ongoing connection to Michigan Tech. On the wall behind his desk, a poster celebrating the fiftieth anniversary of the Isle Royale study hangs next to a map of Yellowstone marked up with boundaries of the territories controlled by each of the packs. A pair of cross-country skis stands in one corner, and a wolf skull from No. 27—the Yellowstone wolves get numbers, not names—reminds him of the incorrigible female who was killed by authorities after she'd wandered outside the park a second time and killed several sheep. On the bookshelf is a copy of his gripping

2005 book, *Decade of the Wolf: Returning the Wild to Yellowstone*.

Still, Smith is a wildlife biologist, and he'd rather be out of doors. He savors those days on his horse, Joker, riding up into Yellowstone's Mirror Plateau, where elk and bison roam and wolves may be lurking.

"There are no trails, it's just wild country, but Joker knows the way," says Smith. "We've ridden there so many times."

"You develop an emotional connection with the wolves out there," he says. "It's seductive. They draw you in. They are the pure definition of wildness." ■

A one-stop shop for budding businesses

by Jennifer Donovan

It started out as a marketing class assignment: find ways to make students more aware of the Michigan Tech Enterprise Corporation (MTEC) SmartZone's Entrepreneur Support Center (ESC). It wound up turning Jessica Tompkins into an entrepreneur herself.

"When I saw how many resources the Entrepreneur Support Center had to offer, I ended up asking them to help me start my own company," Tompkins says. Her fledgling firm, Two Bows LLC, designs and sells a line of outdoor clothing for women.

The ESC is both a place and a support system. In addition to fully equipped offices in the Jutila Center in Hancock and the Lakeshore Center in Houghton that budding businesses can call home, the ESC provides just about every kind of service a start-up might need: legal assistance, intellectual property counsel, business plan development, accounting and financial management, market research, marketing, and web design.

Tompkins' first stop was attorney Kevin Mackey, who helped her register Two Bows as a limited liability corporation (LLC). The legal counsel cost her nothing but the LLC registration fee. John Diebel, assistant director for technology commercialization in Michigan Tech's Office of Innovation and Industry Engagement and an ESC intellectual property counselor, helped Tompkins do market research. Jackie Miaso, a certified bookkeeper and QuickBooks specialist, taught her to set up and keep her financial records.

Jessica Tompkins found out about the Entrepreneur Support Center in class. Then she tapped it for help starting her own women's outdoor clothing company.



The ESC also prepared Michigan Tech's teams—including Tompkins'—for the 2012 New Venture competition, a partnership between Michigan Tech and Central Michigan University. All six Tech teams made it to round two of the statewide competition, and two placed first and third.

Now Tompkins is working on a website for Two Bows with Zach Erkkila, a fellow Tech student and partner in ZT Web Development, another business launched with the aid of ESC.

"The ESC provided Two Bows with opportunities around every corner," says Tompkins.

A safety net

The SmartZone's ESC and Michigan Tech work hand in hand to weave a sturdy web of support services for would-be entrepreneurs. Tech's School of Business and Economics offers an entrepreneurship class, a two-semester capstone program in business development, and a graduate-level course called Developing Entrepreneurial Ventures. The School also sponsors the Entrepreneurs and Innovators Club and the annual Bob Mark Memorial Elevator Pitch Competition, named for the late professor Robert Mark.

Mark, who died in 2011, was the reason Tompkins began to think about starting a business in the first place. "I was taking his Introduction to Business class during hunting season," she recalls. "I'd taken many hunting trips with my dad, and I was always amazed at the unflattering clothes women wore to go hunting. I decided to see what Bob thought of my idea of creating attractive, yet serviceable, hunting and outdoors wear for women."

Mark thought the idea had merit. He urged her to enter Tech's 2010 Elevator Pitch Competition, which she won, and referred her to Diebel and Jim Baker, who run a federally funded Small Business and Technology Development Center at Michigan Tech. With those resources to draw on, they were able to help set Tompkins on the right path.

Two Bows has developed a product line of designs and prototypes, found a camouflage fabric supplier, established a manufacturing/supplier system stretching from Iron Mountain to North Carolina to China, and raised a little start-up capital at Crowdfunders.com. She's building a business network nationwide and has already caught the eye of two outdoor retailers, "one of them very well known," she hints. During a Michigan Economic Development Commission Entrepreneurial Services statewide tour, her company was named 2012 Student Start-up of the Year. And that, says Tompkins, "felt like a hug."

A growing concern

Amber Campbell is another Michigan Tech entrepreneur who says she couldn't have opened her doors without the ESC.

Actually, her business doesn't have doors. It's a farmer's market and garden center on Sharon Avenue in Houghton, where Campbell sells giant zinnias and tiny blue bachelor buttons, cilantro and fennel and sweet banana peppers—all kinds of flowers, herbs, and vegetables that the garden centers in discount chain stores don't tend to carry. She also sells farm and garden-fresh fruits and vegetables.

In China, where Campbell was raised, she and her family grew and ate their own fruits and vegetables. "I remember how fresh and good they were," she says. "I am bringing my own good memories to life here."

An MBA student as well as an adjunct instructor at Michigan Tech, Campbell started with little more than an idea. "I like fresh produce and healthy food," she says. "And I have always liked growing things."

When Jonathan Leinonen, a SmartZone executive who teaches entrepreneurship and business development at Tech, led a seminar about the SmartZone's Entrepreneur Support Center, Campbell immediately sought his help. "I have an idea, but I don't know how to start," she told him.

Do this! Don't do that!

Jonathan Leinonen, Jim Baker, and John Diebel offer these tips for would-be entrepreneurs.

DO

Get help wherever and from whomever you can.

Think about protecting your idea or invention, early, often, and carefully.

Talk with prospective customers and partners.

Focus on a clear goal, but stay flexible.

Plan on everything taking two to three times as long as you think it should.

DON'T

Assume that a bright idea is all you need to build a successful business.

Wait to come up with the perfect idea; most innovations aren't perfect, and most never will be.

Think you can do it alone; every successful company has a well-rounded team moving it forward.

Be so afraid to talk about your idea that you miss out on valuable partnership opportunities.

Assume customers will commit to sales based on an early prototype.



Being an entrepreneur is no bed of petunias. Amber Campbell starts every day “with a screaming in my heart,” she says, but is pursuing her dream with help and encouragement from the Michigan Tech SmartZone.

Leinonen knew exactly how to start. “He put me in touch with a lawyer who helped me fill out forms,” she says. “Forms and more forms and then more forms.”

Once the attorney had helped Campbell establish the garden center as an LLC, another Entrepreneur Support Center counselor stepped in. John Diebel usually counsels would-be entrepreneurs about intellectual property protection. Since Campbell’s business is not high-tech and does not involve patents or licenses, he pitched in with market research.

“He helped me find out if there was a demand for more variety in plants and for fresher, natural, healthier produce,” Campbell says. “There is a great demand for more variety and for sustainable food.”

She opened G&A Farmers’ Market and Garden Center in May 2012, as the planting season kicked off, offering colorful bedding plants and a striking variety of herbs and vegetables. As the summer progressed, she added a fruit and vegetable stand where she sells produce fresh from local farms and gardens.

Sustainability guides Campbell’s business plan. She intends to build a pond on the property and raise fish for sale in the market, along with cage-free eggs, locally raised meat and honey, and homemade baked goods. Water from the pond, containing fish waste filled with plant nutrients, will be used to irrigate the gardens. She also plans to use solar energy for the greenhouse and market.

Still working on her MBA and teaching at Michigan Tech and nearby Finlandia University, the entrepreneur quickly learned how demanding launching a new business can be. “I am a little overwhelmed by the demands for time and efforts,” she says, “no matter how small or how well-prepared you are. Every day I start with a screaming in my heart—‘Help!’”

But Campbell is optimistic about her business’s future. “We offer greater variety, lower prices, and better quality,” she says. “I believe that’s what people want.” She’s already thinking about the time when she can replace her plastic greenhouse and roadside stand with a building where she can sell fresh, natural produce year round.

Since it opened in February 2011, the ESC has provided resources for Campbell, Tompkins, and about two dozen other students, as well as five or six faculty members. It’s serving a purpose central to the vision and mission of Michigan Tech.

“The US economy is transforming itself, and that means that more and more of our students are heading toward entrepreneurial careers,” says President Glenn Mroz. “We are preparing them not just to be innovators, but to be leaders in the management of innovation.” ■



Student Adam King in a peaceful moment before jetting out to the fun house ride that is Winter Baja.

Blizzard Baja

Design hits the dirt (and snow)

by Dan Schneider

It's ten o'clock in the morning under a gray February sky, and forty-eight baja cars are roaring southward on Third Street, toward the Lake Linden village campground. It's the start of the twelfth running of the Winter Baja, hosted by Michigan Tech's Blizzard Baja Enterprise.

**Dirty hands aren't
the half of it.
Winter Baja also
means cold feet,
freezing fingers, and
the chance for a
few golden minutes
behind the wheel.**

These are baja cars as the Society of Automotive Engineers (SAE) defines them: “off-road vehicles that will survive the severe punishment of rough terrain.” Here in Lake Linden, about ten miles northeast of Michigan Tech, rough terrain takes the form of ice-slicked turns and jumps built from snow. Winter Baja is a frozen dress rehearsal for SAE’s international baja competitions.

Blizzard Baja team members helped Lake Linden’s Department of Public Works design and build this course, which winds a circuitous route through the village’s park and campground. Students and locals alike are out to watch baja cars catch air on the snow jumps and rub tires around the turns.

In the field are three generations of Tech’s baja cars: No. 73 (the oldest, nicknamed Red Car), No. 43 (East Car), and No. 50 (Widow). These cars from Tech’s previous campaigns represent evolutionary steps toward Daytona, the car Blizzard Baja is building for the official 2012 Baja SAE races.

Part of the SAE’s Collegiate Design Series, the Baja SAE competition simulates the process of developing a vehicle for factory production. It gives students a chance to apply their classroom skills to a real-world project. Thirty Blizzard Baja team members are working on Daytona. Most are mechanical engineering majors, but business and mechanical engineering technology are also represented.

In the machine shop on the ground floor of Tech’s Minerals and Materials Engineering Building, mechanical engineering senior Scott Rhudy explained some of the finer points of Daytona’s drivetrain. As Blizzard Baja’s drivetrain team leader, Rhudy designed Daytona’s shining aluminum gearbox and oversaw development of the clutch and other components.

“It was pretty much a clean slate,” he said. “We did a lot of work to determine the bearing loads and the gear tooth loads. And that determined the size of the box.”

The new gearbox is compact and lighter than its predecessor. It arrived at Tech as a solid block of aluminum; all the machining, with the exception of cutting the gear teeth, was done by Tech students. This brings up a point about Tech’s baja cars: they are pretty much built from scratch. Off-the-shelf parts include tires, shock absorbers, and not a lot else.

Computing factored heavily into Daytona’s design process, from calculating bearing loads with Excel spreadsheets to conducting simulated



Above, David Woller grinds a component for the Blizzard Baja car Daytona, while team president Bret Schulte looks on. Right, Eric VanDrie and Schulte work on Daytona’s frame.





No. 50, also known as *Widow*, gets airborne during Winter Baja, courtesy of driver Eric VanDrie.

stress tests using finite element analysis software. Once drivetrain and frame components were fabricated and assembled, aspects of wheel speed, engine speed, and mechanical stress were measured using electronic sensors. Blizzard Baja's data acquisition team wrote the computer code necessary to convert the sensor information into usable numbers.

During Winter Baja's morning session, the course eats up the cars. Thirteen are in the pits, including Tech's No. 73; mechanical engineering senior Kyle Broetzmann is working furiously on the carburetor. From time to time, additional vehicles are towed in. One has mangled its rear suspension on some harsh jumps near the village baseball field. On those same jumps, the Virginia Tech car shatters its right front wheel.

Considerations of repairability inspired Tech's design, including a modular front end for Daytona's tube-steel frame that can be replaced during a relatively short pit stop.

"The front end of our car can take a lot of abuse, and in the past we've actually bashed in tubes that we've had to cut and re-weld," team president Bret Schulte said. "During a race, we do not have that kind of time."

Midway through the afternoon endurance race, 73 is running smoothly. Broetzmann has spent the last two hours disassembling, cleaning, and rebuilding its carburetor at least a dozen times, his dedication to the task born from the fact the engine problems were cutting into teammates' time behind the wheel.

"You got guys who worked all season long on all the cars, including the new one, and they deserve to get their time in driving just as much as I do," he says.

Because the chance to drive the cars at speed is one of the rewards of the Blizzard Baja Enterprise. One major reason Tech hosts Winter Baja is to give all the schools' team members a few golden minutes in the drivers' seats of cars they spend countless hours designing and building.

The other is to put designs through real-world paces in advance of the SAE's official race series.

"We got our testing done," mechanical engineering junior Nathan Koetsier says after the race. "We know what went wrong and what didn't go wrong, so we can apply that knowledge to the new car."

Epilogue

Blizzard Baja finished the 2012 Winter Baja seventh in a field of sixteen. Later in the year, Daytona saw warm-weather action at the SAE Baja international competition in Wisconsin, where the team placed eighth among the ninety-five entries. ■



PHOTO: STACEY FRANKENSTEIN-MARKON

Tackling the last taboo

How a Peace Corps volunteer from Michigan Tech helped women in Uganda take charge of their periods and control of their lives

by Jennifer Donovan

“They use *what?*” Stacey Frankenstein-Markon gasped. A graduate student in Michigan Tech’s Peace Corps Master’s International program in applied science education, she had just arrived in Uganda as a Peace Corps volunteer. And she’d just found out that girls in her African village of Bukedea used rags, old socks, or wads of newspaper to do the job of sanitary napkins.

Frankenstein-Markon soon understood why access to pads was an impossible dream for most girls, who come from families of subsistence farmers making about a dollar a day in disposable income.

“Disposable pads cost a dollar for an eight-pack,” explains the Peace Corps volunteer, who is now back at Michigan Tech completing her master’s degree.

“The average family in Uganda has 7.2 children. If just three of those children are daughters who are menstruating, that family would have to spend 20 percent of its income just on pads. Who can afford that?”

Good “feminine protection” is more than a matter of convenience. In Uganda (as in the United States), menstruation is a taboo topic, and Frankenstein-Markon learned that girls in Bukedea feared they might stain their clothes and be badgered by boys. The potential for embarrassment was so great that girls often didn’t go to school while they were on their period. Eventually, they would fall so far behind that they had to drop out.

Then Frankenstein-Markon stumbled upon an innovation developed by a previous Peace Corps volunteer. Since that discovery, she has helped hundreds of girls practice better hygiene while they learned about menstruation, their bodies, and women’s health. And not incidentally, stay in school.

That invention was RUMPS (Re-Useable Menstrual Pads). These hand-sewn cloth envelopes can hold any absorbent material, such as a folded washcloth. They have straps that function like the “wings” on conventional pads, except they are held in place with buttons instead of adhesive. Cleanup is



Stacey Frankenstein-Markon

a snap. Soaking RUMPS in water for a half hour or so gets rid of most of the menstrual fluid. Then all they require is a quick hand wash in soapy water and a rinse before hanging on the line to dry. One RUMP costs about twenty-five cents and can last for months.

Frankenstein-Markon taught girls to sew locally available material into RUMPS, but before they started stitching, they learned about puberty, sex, pregnancy, and sexually transmitted diseases. She and her community partners answered questions and encouraged honest discussion about matters most of the girls had never considered mentioning in public.

“I cut out 3,600 RUMPS pads myself,” says Frankenstein-Markon. “I spent 180 hours using scissors, bandaged six blisters, and swept up more tiny bits of towel fluff than I ever imagined could exist.”

With the help of three Ugandan partners, Frankenstein-Markon reached more than 1,800 girls, women, and men. And yes, men did attend the RUMPS sessions, although they were sometimes shy about speaking up.

Frankenstein-Markon recalls one man whispering, “Madam, how can I ask you about sex when my niece is in the

audience?” And most Ugandans do not want their children to hear about family planning, she says.

But, she adds, “for every five shy Ugandans, there was always one courageous woman who says, ‘Ladies, let’s talk about the clitoris.’ Then another would say, ‘Madam, I want to use family planning. What can I do?’ People want this information, and we helped them get it.”

Every community she visited reacted positively, the Peace Corps volunteer says. “In Uganda today, people are trying to overcome traditional taboos. I found that talking about menstrual health opened the door for other, deeper topics. I started by talking about body changes. Then I moved on to how a woman becomes pregnant.”

Frankenstein-Markon’s work has not gone unrecognized. For International Women’s Day 2012, the Peace Corps in Uganda nominated her for her efforts to “empower girls.” She was one of three field workers from Africa recognized by the Peace Corps worldwide.

Now that the graduate student’s Peace Corps service is over, her community partners are carrying on the work. One of them has applied for a grant to expand RUMPS to fifty more Ugandan schools. Word is spreading, and other Peace Corps volunteers are starting RUMPS projects in their communities.

While she was in Uganda, Frankenstein-Markon worked with an HIV/AIDS-positive support group, and she would like to see the RUMPS program expanded to serve the large numbers of such women in Uganda.

“The RUMPS project helps families save money, and those savings can be especially beneficial to HIV/AIDS-positive families,” she explains. “Families can use that money to focus on good nutrition, taking their medication, and preventing deadly infections like typhoid.”

In essence, as women take control over their periods, everyone begins to take charge of their lives.

“The Ugandans have a phrase for it,” she says. “Live positively.” ■

Back to school

From email to Excel, Tech students and faculty are prepping seniors for the digital age

by Marcia Goodrich



Professor Charles Wallace, left, helps Bob Veaser work out some issues with an Excel spreadsheet.

Seventy-eight-year-old Fritz Ahola hunches over his laptop. “What’s on the list today?” asks Charles Wallace, an associate professor of computer science. “The wife wants to know how to save these files to a disc,” Ahola answers. “And, how do we get this picture on my desktop to print?”

You’d think that would be easy, but it isn’t, Wallace tells Ahola. “This is actually one of the harder things to do.” Then they get down to the business of doing it.

Ahola and a half dozen other people, most of them senior citizens, are here in the Portage Lake District Library on this sunny April day to learn how to use computers. The classes are the brainchild of Wallace, who started the program in October 2011.

Some, like Ahola, have brought their own laptops. Others use the library’s computers. They all have come to get their heads around this brave new technology that has come so naturally to their children and grandchildren—but all too often leaves them spinning in its wake.

Donald Janovsky, a retired construction worker, is learning how to access the Internet. And as he methodically follows his tutor’s instructions, it becomes evident that a process many of us take for granted is about as intuitive as quantum mechanics. “If you don’t see what you want on your desktop, go to the ‘Start’ box,” Carole Noonan advises him. “See? Firefox is in there.” Oh! says Janovsky.

He has no trouble following directions, however, and launches Firefox cleanly. Then he goes to the Google search page, where the reason for his visit becomes clear. “I want to find some exercises to help with my sciatica,” he tells Noonan.

A few tables over, computer science undergraduate Jeanette Head is going over the finer points of dragging, dropping, copying, and pasting with Harvey Filppula, 75. Then they turn their attention to his Facebook page. “We can update your status,” she says. “Do you know what that means?”

“I know nothing,” Filppula states flatly. Shortly, however, he has indeed updated his status and is showing off a picture of himself with his granddaughter.

“I really appreciate Tech doing this kind of program, that’s free and easy, to help those of us who haven’t grown up with computers,” he says.

Janice Peterson, 84, has been coming to the classes since they began. She can also check out pictures of her grandkids, thanks to the library’s computers and her new-found expertise. “These classes are so helpful,” she says.

They grew from earlier workshops Wallace held at a local assisted-living facility.

“It was fun at The Bluffs, and I wanted to open the class up to a wider group. I was also aware that there were a lot of people in the area who need this kind of help,” he says. “They need a computer to

Computer science professor Charles Wallace says tutoring elderly residents is the most fun he has all week.

keep in touch with their family, because that's how younger people keep in touch with each other now. But it's not that easy for the grandparents."

Wallace started the service because he recognized a need, but he continues it for other reasons. "It's the most fun I have," he says. "It's the highlight of my week." It's been so fun that he's teaching others to do what he does in a new graduate course, Software and Senior Citizens.

Randy Harrison, a graduate student in rhetoric and technical communication, also enjoys tutoring. "Computing is not intuitive," he says. "It's a literacy that these people don't have. But I know what it feels like not to understand: they are to computers like I am to cars, so that helps me be compassionate. Plus,

they are patient with us, too, and never demanding."

Bob Veerer, 86, is working with Wallace to iron out some problems with an Excel spreadsheet. "I've been coming here since it started," he says. "I didn't know anything about computers, and I was looking for a class. I've learned quite a bit."

Veerer's success is typical, says Chris Alquist, director of the Portage Lake District Library. "They are such eager learners," she says.

Janovsky, who picked up some pointers on managing his sciatica, is among them. "I like to learn about this new knowledge," he says. "I don't know if I'll ever get it, but I'll keep trying." ■



Harvey Filppula gets a lesson in Facebook from computer science undergrad Jeanette Head.



Getting computer help 24/7

It's great to work with a tutor at the Portage Lake District Library. But what if you (or someone you love) are having a cut-and-paste emergency at 11:30 on a Saturday night? Here are a few places you can go for help.

Tech Support Care Package

www.teachparentstech.org

Using this Google site, Michigan Tech students send video "tech support care packages" to their elders that help with many computing

tasks, from changing your wallpaper to making a phone call from your computer. And, ahem, there's no law against sending a video to yourself.

Eldy

<http://eldy.eu/about-us>

This nonprofit group has created free software that makes basic computer tasks easier.

Skillful Senior

www.skillfulsenior.com

Skillful Senior has a fairly good set of tutorials to help newbies get started with fundamental computing, says computer science professor Charles Wallace.

MORE AMAZING FEATS of ENGINEERS

A picture worth \$2.5 million

by Russell A. Gronevelt '69, civil engineering

Do you have a story about overcoming a big professional challenge? We'd love to hear about it. Email the editor, Marcia Goodrich, at mlgoodri@mtu.edu.

After I graduated from Tech, I got my first job working as a project engineer for the City of Livonia. The city had assessed a millage to improve its major roads, and many of our roads had been improved, but not the crossing at Middle Belt Road and the Chesapeake & Ohio railroad.

The Middle Belt was four lanes across and very congested, and when the trains crossed, traffic would back up for blocks. That was a big problem for the fire department. The solution would be to lower the roadway and build a railroad bridge over the Middle Belt.

I went to lunch with the city manager and the city engineer and asked them about it, and they said there wasn't enough money remaining in the road millage account to pay for a new railroad bridge. I asked about submitting a proposal to a special Federal Highway Administration (FHWA) program used to address safety issues. The manager and the engineer had lots of reasons not to: The list had a backlog. It was a very large project. It would take years to get funding. We were competing with lots of other communities across the country. The projects being approved were small, and ours was big.

I just asked the question, why not try anyway? After making several phone calls to the FHWA, I learned that our project might qualify. Not having done it before, I also learned how to submit a project. I recalled the advice of a Tech professor to include pictures in your report, because they do the best job of telling the story. So, I went up in a cherry picker with a photographer when the train was crossing and got a picture of a huge traffic backup. The proposal went to the Chicago office, which said our request would have to go to Washington and that it would take months, because there wasn't enough money for large projects like that. Then six weeks later we heard it was approved for the full amount, \$2.5 million. That was a lot of money in 1972.

The Wayne County Road Commission engineered the grade crossing, a complex and unique project. It's still there today.

I didn't do any of the engineering on this project. But I learned some important lessons I've applied over my entire career. It's important to try, even if people say you don't have a chance of succeeding. And a picture truly can be worth a thousand words, or, in this case, \$2.5 million.

Save us \$2.1 billion, please

by Pamela Rogers Klyn '93, mechanical engineering

I have spent my entire career working for Whirlpool Corporation, on both the engineering and on the business side. I am currently the general manager for the cooking business here in North America, and I've been amazed at how much I continue to leverage my engineering skills as I've move through different roles in the organization.

In mid-2008 I was challenged to put a management system in place that would systematically drive costs down, as opposed to implementing a "program of the month." I had to influence people all across the organization, and to do that, I had to speak their language. I found that my engineering background brought me credibility with my counterparts in manufacturing and technology. Plus, my engineering education gave me project

management skills and the capability to divide large tasks into smaller, achievable components.

My goal was to take out \$2.1 billion in costs in our North American business over three years. While the most important part of my job was to hit this goal, I also had to implement a process to make cost-cutting part of our daily routine and drive this culture through the Whirlpool organization. This involved everything from manufacturing and supply-chain efficiencies to improving our product quality, which would create a better experience for the consumer and save on the cost of product repairs.

The key to driving a sustainable approach to cost takeout was disbanding the "Cost Team" and putting its responsibilities back in core functions

like manufacturing and product development. We also emphasized why cutting costs was critical to our business and made all employees aware of the role they could, and should, play in improving the bottom line. Key to our effort was making the employee bonus multiplier dependent on reaching our goal. All of a sudden everyone was very interested in how they could help Whirlpool hit the target! We ended up beating that three-year goal, and the on-going effort is still in place today.

Editor's note: Klyn and her multi-billion-dollar accomplishment were featured in a January 19 Wall Street Journal article by Joann Lublin, "Finding Their Way to the Fast Track."

Bad vibrations

by John K. Vohs '62, mechanical engineering

When I was an engineer at Goodyear Tire and Rubber, I had an interesting experience overcoming a difficult problem by using vector analysis and simultaneous equations.

This happened in 1975–76. We were finding it very difficult to give the car companies what they wanted: a steel radial tire that would perform with no vibration at any speed. It got to the point that we were rejecting a large number of tires.

I had been transferred from the plant technical staff to the corporate headquarters as chief engineer of the technical service division in tire development. When I studied what we were doing to address our nonuniformity issues, I

found that one of the research staff had discovered some interesting trends. The researcher came to me with his data and suggested that we isolate each part of the tire production process to determine what was causing the most nonuniformity at each stage.

Tire production has many places that interact, such as in the assembly of the parts and in the curing of the assembled tire to make the finished product. We analyzed the entire process using vector analysis and simultaneous equations, dissecting each step. This opened our eyes so we could see where we had the most problems. Then we were able to make significant improvements and meet the tighter standards, which reduced our cost

significantly. We trained the tire production staff so all the plants could benefit.

With the math courses I had at Michigan Tech, I was able to understand how the forces that existed could be extracted and how the force vectors were adding to the tire process and either canceling out problems or adding to them. As a result, we understood why the things we had tried previously gave such random results.

Now Goodyear tires are able to provide the smooth ride we all appreciate.

Giving back to Tech and their communities

The 2012 Alumni Association Award winners



DISTINGUISHED ALUMNI AWARD

John Soyring '76

Before retiring in January 2012, after a thirty-six-year career with IBM, John Soyring led the computing giant's global industrial solutions and products business as its vice president for industry solutions. He was also the coleader of the Alliance of IBM Software and IBM Global Business Services Group and a member of the IBM Industry Academy Advisory Board, the IBM Eco-Efficiency & Sustainability Executive Board, and the "Banking the Unbanked" Executive Board.

Soyring joined IBM after graduating with a BS in Electrical Engineering from Michigan Tech. He later completed graduate degrees in computer science, electrical engineering, and business administration at the University of Minnesota and the State University of New York. He received an honorary doctorate of engineering from Michigan Tech in 2006.

Listed as one of Tech's most notable alumni on Forbes.com, Soyring has been a keynote speaker on campus many times and was the commencement speaker in 2006. He supports students through the John Soyring Annual Scholarship; he is also a member of a select group that guides the University's fundraising initiatives; and he advises the campus chapter of the American Indian Science and Engineering Society.

He has started his own firm, Sisukas Consulting, in Austin, Texas.

OUTSTANDING YOUNG ALUMNI AWARD

Kristina Marshall '98

Since graduating in 1998, Kristina Marshall has been leading Winning Futures, a non-profit organization that offers mentoring programs for middle school and high school students. Her life's mission, Winning Futures promotes character, goal setting, career preparation, and strategic planning—all elements of student success.

In her fourteen years with the organization, Marshall, now its president and CEO, has affected the lives of over 22,000 students; has personally mentored forty-two teens; and has awarded over \$1.6 million in scholarships to high school students in metro Detroit.

Marshall has received numerous awards recognizing her as an "everyday hero," a proven leader, an advocate for youth, and a role model for "alternatives for girls."

She earned her BS in Business Administration from Tech and an MA in Educational Leadership from Oakland University. She has coauthored two workbooks for youth and two training manuals for mentors.

When Winning Futures began its work in southeast Michigan in 1994, Marshall was its first mentee. It was launched nationally in 2009, and now other nonprofits and schools in thirty-eight states are using its curriculum.

The initiative has received many accolades, including two from Michigan's governor for innovation and excellence.





DISTINGUISHED ALUMNI AWARD

Olive Cornish Kimball '52

In 2007, Olive Kimball retired from the Chicago-based National Accrediting Agency for Clinical Laboratory Sciences, where she served as CEO for eight years. She was responsible for all of the agency's operations, including accreditation of approximately 700 academic programs nationwide.

Kimball graduated from Michigan Tech with a bachelor's degree in general science (medical technology) in 1952. She also earned both a master's degree in science education and a PhD in Educational Psychology from Northern Illinois University and has studied at Bryn Mawr College and Harvard University.

She has been honored by the Association of Schools of Allied Health Professionals, the American Society for Clinical Laboratory Sciences, and Alpha Mu Tau, the National Honorary Medical Technology Fraternity.

Kimball says her Tech education prepared her "beautifully" for her subsequent study and work. She has served as a trustee of the Michigan Tech Fund; was the first woman to receive Tech's Board of Control Silver Medal; been inducted into the University's Academy of Sciences and Arts; and was awarded an honorary doctorate in biological sciences. "I value what Tech as an educational institute can do and can become," she says.

OUTSTANDING SERVICE AWARD

Tanya Wareham Klain '90 (deceased)

The 2012 Outstanding Service Award honors Tanya Wareham Klain, who died on December 7, 2008.

Tanya earned a Bachelor of Science in Mechanical Engineering in 1990 and was a vibrant presence on campus. She was active in her sorority, Alpha Gamma Delta, Undergraduate Student Government, residence hall councils, the Alpine Ski Club, and the Michigan Tech Student Foundation. Besides earning a degree, she made friendships that endured. "Tech is famous for that—people staying together," she once said.

After graduation, Klain went to work for General Motors, where she advanced through several leadership positions, most recently as engineering group manager in the area of body and exterior components. She was a member of GM's university relations and recruiting team and was GM's key contact with Michigan Tech's Department of Mechanical Engineering—Engineering Mechanics.

She served on the Board of Directors of the Alumni Association and was very active in alumni events in the Detroit area. In 2004, Tanya was inducted into the Presidential Council of Alumnae.

She always said that Michigan Tech transformed her life. "Coming to Tech was the best decision I ever made," she said. "I owe the University a lot—pretty much everything."



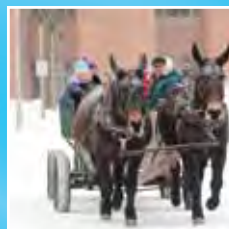
Winter Carnival

February 6-10, 2013

**"Heroes and Villains Find Their Powers
In These Frozen Hours"**

Planning a visit?

Go to www.mtu.edu/admissions/visit/lodging for information on motels, bed and breakfasts, cabins, and other lodging options.



Fun with fish guts

Seven-year-old Matthew Peters dissects a lake trout's innards to find out what it has eaten, part of the Children's Laboratory Exploration held during Michigan Tech's 2012 Alumni Reunion. "I could do this for a living!" the third grader said as he pulled apart his third fish stomach. Matthew is the son of David '87 and Becky Peters, of Taylor.



Alumni Reunion honors Women of Tech

For the first time, a Michigan Tech Alumni Reunion has highlighted the women of Tech, from faculty and graduates to students who left the University to support their husbands' careers.

In their honor, Alumni Relations hosted a Women of Tech Celebration at the J. R. Van Pelt and John and Ruanne Opie Library. Among the speakers, pictured left, were Sally Heidtke '81, above; President Glenn D. Mroz '74 '77, center; and Marie Cleveland '82, who discussed the importance of supporting scholarships for female students. The event raised over \$7,000 in scholarship donations.

What a gift can do

"I'm studying a protein in the lectin family. Lectins are found on the surface of cells, and they interact with carbohydrates in ways that have important implications for our immune function and other biological processes.

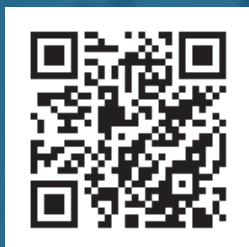
"Thanks to my fellowship, I've discovered that I love research, and now I plan to go to graduate school to earn a PhD."

— Sarah Riutta, senior,
pharmaceutical chemistry

The Rebecca M. C. Sandretto and Susan Stackhouse Summer Fellowship opened Sarah's eyes to a promising future in biomedical research. Your gift can also change lives. Call 877-386-3688 or email techfund@mtu.edu to donate to Summer Undergraduate Research Fellowships. Or visit www.mtu.edu/giving and include "SURF Program #1743" in the gift designation box.

**GENERATIONS
of DISCOVERY**
the Campaign for Michigan Tech

www.mtu.edu/giving



Alumni Events

September 15

North Canton

Football tailgate
Huskies vs. Walsh

October 6

Marquette

Miners' Cup
football tailgate
Huskies vs. NMU

October 7-13

Houghton

Homecoming Week, fourth
annual Alumni-Student
Broomball Tournament

October 27

Saginaw

Football tailgate
Huskies vs. Saginaw Valley

October 27

Denver

Colorado K-Day hockey
pregame
Huskies vs. Denver

October 27

Chapters across the US—
Make A Difference Day

November 2

Houghton

Keweenaw Alumni Chapter
Skybox
Huskies vs. Nebraska

December 5

Houghton

Keweenaw Alumni Chapter
Holiday Bash
Continental Fire Company

December 8

Madison, Wisconsin

Hockey pregame
Huskies vs. Wisconsin

December 28-29

Detroit

Forty-eighth Annual
Great Lakes Invitational at
Comerica Park

December 31

Houghton

Keweenaw Alumni Chapter
New Year's Eve party
Continental Fire Company

January 12

Grand Rapids

West Michigan Chapter
Huskies basketball vs.
Grand Valley

January 12

Duluth, Minnesota

Hockey pregame
Huskies vs. Minnesota
Duluth

Check out our website for up-to-date listings of regional alumni events:
<http://mtu.edu/alumni>

A number of chapters also have regular networking events for area alumni.
Join your chapter's Facebook page for details.

facebook



What you say

From the Michigan Tech Alumni Association Facebook page



Alumni answer the question "How would you caption this snowy photo from Winter Carnival 1982?"

I told you the reactor vessel was too small to hold our cold fusion experiment.

Our statue is so intricate . . .
Oh wait . . . I'm looking at the ice crystals on my glasses.

You will like MTU. Just a short walk across campus to catch your 8 o'clock and you will be totally refreshed and ready to concentrate on the lecture.

Man loses fight with snow cone.

How you look when you walk from the Mechanical to the Electrical building

Shoulda got the remote starter.

Just another day at Tech.

The warmest Winter Carnival in years!

Ahhhh! Summertime in Houghton!

The Hot Damn isn't working . . .

Traditions old and new



As summer turns to fall, and the changing colors spread across the Keweenaw, your Alumni Relations staff and board of directors look excitedly towards homecoming. It's one of the most exciting campus events and a powerful connection for our alumni back to Tech. Our association's mission is "Celebrating Traditions. Creating Connections," and homecoming allows our various generations of Huskies to celebrate their own traditions while creating new connections back to Houghton. We organize a broomball tournament and give towels to drenched students

at the cardboard boat races, to name just two of the more recent traditions, which may be different from when you and your classmates were students.

Looking back at my two years as your president, it's true what they say, that time really does fly when you're having fun. It seems like yesterday that I was typing my first letter to you. I'm excited about the many ways in which we can all remain connected to our alma mater, and I plan to enthusiastically remain engaged myself. Whether attending local alumni events, mentoring a student, assisting with corporate recruiting, serving on an advisory board, or interacting via Facebook and LinkedIn, the inspiring options to connect are many. Check out the feature on the opposing page that shows how some of your fellow alumni are interacting via Facebook.

I am particularly inspired when our association honors several extraordinary alumni with our annual awards. Your Board of Directors is privileged to acknowledge these outstanding individuals, and their stories are always moving. It was a humbling experience to present the awards to this year's honorees at our recent Alumni Reunion Dinner in Houghton. I encourage you to read about these exemplary fellow alumni.

Alumni financial support is crucial to the University's continued success. Your ongoing generosity to the Generations of Discovery campaign, which heads into its final year, can help ease our students' financial burden in the face of decreased state funding and ensure success for many more generations of Huskies.

I challenge each of you to find your preferred method to reconnect with Tech in a meaningful way, including stopping by the Alumni House for a cup of coffee and some great conversation. I always do whenever I'm in Houghton!

Paul J. Ninefeldt '96
President, Michigan Tech Alumni Association

Help us recognize outstanding alumni and friends

Know a great alumnus/a or friend of Michigan Tech? You can help them get the recognition they deserve by nominating them for a 2013 Alumni Association Award.

More information is available at <http://alumni.mtu.edu/awards> or by contacting Alumni Relations, 906-487-2400 or alumni@mtu.edu. The deadline to nominate is December 1.

Make A Difference October 27

Get your work gloves out! Make a Difference Day 2012 is October 27. This nationwide day of service is a great way to give back to your community. To register a project, go to www.mtu.edu/alumni/make-a-difference-day. (We'll take care of spreading the word to alumni in your area.)

Alumni-Student Professional Mentoring

Our mentoring program is on the move from HuskyLink to LinkedIn. This new platform will make it easier for alumni and students to connect. To learn more about the benefits of becoming a mentor, visit www.mtu.edu/alumni/connect/mentoring.

A delicious way to give! Enjoy Husky Blend coffee

Stock up on some great coffee and support your alma mater. Husky Blend coffee comes in a wide variety of flavors, from medium to dark roast, including fair-trade organic. A portion of the proceeds from your purchase support Michigan Tech Alumni Association programs for students and alumni. Visit www.mtu.edu/alumni/products/gear for details.



Join Michigan Tech's online community

As a Tech grad, you can join over 15,300 alumni and access the entire alumni directory and group directories; register for events; update your info; and share your news and photos.

huskylink.mtu.edu/join

Your access code (first-time number) is located above your name on the address label on the back cover. What are you waiting for?

Get connected. Get involved.

DeVlieg Foundation funding scholarships, fellowships, student research

Since 2006, 22 private foundations have given \$2.6 million to Michigan Tech.



When it comes to finishing college, scholarships and fellowships can make all the difference—as anyone knows who has struggled to pay for their education or that of an offspring.

That's why The DeVlieg Foundation has given nearly half a million dollars to Michigan Tech over the past several years to support scholarships, fellowships, and summer research opportunities for students in engineering and natural resources. The foundation's most recent gifts include \$21,000 to help high-achieving students in engineering, wildlife, and biological research.

A private foundation established by the founder of the DeVlieg Machine Company of Royal Oak, The DeVlieg Foundation is dedicated to promoting educational programs throughout the US.

"We like Michigan Tech because its engineering education and research programs are compatible with our mission to advance engineering, natural resources, and environmental sustainability," says Janet DeVlieg Pope, president of the foundation. "The DeVlieg Foundation trustees started the Summer Research Grant Program in Wildlife Biology several years ago because we believe in supporting students' research endeavors. We also like that the DeVlieg Foundation grants are awarded to Michigan Tech's highest achieving students."

Katherine R. Waring, a senior at Michigan Tech, received DeVlieg Foundation scholarships for three years. "The DeVlieg Foundation helped me to pursue my double major in environmental and civil engineering, with a minor in ecology and a certificate in International Sustainable Development Engineering. I hope to put my education to use in a career in research."

The Annual Fund

Making a difference—every day, every year.

Michigan Tech

annualgiving@mtu.edu • www.mtu.edu/annualfund
www.mtu.edu • 906-487-2310

Your yearly gift—no matter the size—helps Michigan Tech educate bright, motivated, and adventurous students who will create the future for all of us.

While continuing to provide vital, unrestricted gifts for University priorities, the 2012–13 **Michigan Tech Annual Fund** is placing special emphasis on securing contributions for **student scholarships**. So, when making your contribution this year, please keep in mind these Annual Fund gift options:

- student scholarships
- academic departments
- University-wide priorities

To make your gift to the 2012–13 **Michigan Tech Annual Fund**, simply go to www.mtu.edu/giving, phone the Michigan Tech Fund at 906-487-2310 or toll-free at 877-386-3688, or mail your gift to Michigan Tech Fund, Michigan Technological University, 1400 Townsend Drive, Houghton, MI 49931-1295.

Class notes

1960s **James A. Mitchell** '65 formed Mitchell Intellectual Property Law, PLLC, in Grand Rapids in June 2012 with four attorneys and plans for rapid expansion.

1970s **Ivan Martin** '70 (ME) retired in January from Flextronics International where he was director of reliability engineering. He and his wife live in Ottawa and plan on spending most of the winter in Hilton Head, South Carolina.

Richard Hole '72 has recently returned from a mission to Guatemala, where he trained a team of future audio recording technicians. Says Rick, "A side trip to a mountain town for medical relief was a wonderful surprise."

Michael Binder '75 is working as a contractor. "That's a new experience for me," he says. "Been a full-time employee for all the rest of my career."

1980s **Craig Gooding** '81 is the national sales manager, fleet and GIS, for Mitac Digital Corporation. He represents Magellan GPS products to Fleet Management and GIS markets throughout the US.

Susan Ulanowicz '82 is a senior project manager at Roche Applied Sciences, in Indianapolis, and has earned the Project Management Professional credential.

Steven Foster '85 has joined Ingersoll Rand in Davidson, North Carolina, as the vice president of global quality for the Trane Commercial and Thermo King brands. Steve leaves his role as vice president and chief quality officer at Meritor after nearly twenty-three years for this new opportunity. He will partially relocate to North Carolina and will maintain his strong ties to the Metro-Detroit area.

Julie Craig '87 is a senior environmental engineer at Earth Smart Environmental Solutions, LLC, in Saline.

John McDaniel '87 is chair of the IEEE Power and Energy Society Distribution Subcommittee.

Schmiege elected chair of Americas Aerospace Quality Group

William Schmiege '80 has been elected to a two-year term as chairman of Americas Aerospace Quality Group. The AAQG is a cooperative organization of aerospace companies within the Americas working to establish common practices in quality systems, share best practices, and improve quality, delivery, and cost performance.

Schmiege, group vice president of integrity for the California-based firm Parker Aerospace, has been active in the nonprofit AAQG for five years and most recently served as vice chairman. He intends to focus on quality planning in product and business processes and noted that some of AAQG's "how to" best practices have been adopted at Parker.

Schmiege joined Parker Aerospace in 1986. He has been involved with product development, customer service, project management, quality assurance, lean manufacturing, and operations effectiveness. He earned a BS degree in Metallurgy at Michigan Tech and an MS in Leadership at Central Michigan University.



Balaras named ASHRAE vice president

Constantinos A. Balaras '84 has been installed as vice president of ASHRAE.

ASHRAE is a building technology society with more than 50,000 members worldwide that focuses on building systems, energy efficiency, indoor air quality, refrigeration, and sustainability within the industry.

Balaras is the research director at the Institute for Environmental Research and Sustainable Development at the National Observatory of Athens, Greece. He is serving his second term as ASHRAE vice president and is chair of the Handbook Subcommittee of Technical Committee 6.7, Solar Energy Utilization, newsletter editor, and chair of the Publicity Committee and the Historical Committee of the Hellenic Chapter.

1990s

Linda D. Kennedy '91 has accepted a position as a shareholder in the Detroit office of the Butzel Long law firm, where she specializes in intellectual property.

Lynne (Tarbutton) Madison '92 (Biological Sciences) received the Michigan Environmental Health Association's 2012 Sanitarian of the Year Award and the Michigan Association of Local Environmental Health Administrators' 2011 Founders Award. Lynne is the environmental health division director for the Western UP Health Department and was the 2010 president of the Michigan Environmental Health Association.

David Hokanson, PE '92 '96 '04 (BS EEN, MS CE, PhD Eng-Env) is a principal engineer at Trussell Technologies Inc. in Pasadena, California. He is a board-certified environmental engineer, certified by the American Academy of Environmental Engineers in two specialty areas: water supply, and wastewater and environmental sustainability. He lives in Arcadia, California, with his wife, **Jill** (BS GE '96), and three daughters.

Bonnie and **Jeff Dunbar** '97 (Wood Science) announce the birth of their sixth child, Simon Matthew, born December 13, 2011. Simon joins Keltin, 9, Mackenzie, 6, William, 4, and Rachael, 2. "His big sister Gabriella is watching from heaven."

2000s

Aaron Hilshorst '00 wrote, "On January 16 I started my new position as senior environmental engineer at the Climax Mine in Climax, Colorado, after spending nearly eight years working for Freeport-McMoRan Sierrita in Arizona. The Climax Mine is part of the Freeport-McMoRan Copper & Gold family of mines."

Robert Walsh '00 is now a board member and the director of operations at Surge for Water based in Chicago. Surge is a nonprofit that delivers clean, safe water globally and invests in innovation that drives sustainable solutions.

Mara Carlton '01 has left E. & J. Gallo Winery in Modesto, California, to take on her new responsibilities as the regulatory compliance manager for Ste. Michelle Wine Estates in Seattle.

US Air Force captains **Aria** and **Christian LaFord** '07 welcomed their son Tristan Beckett to their home in San Antonio, Texas.

For the past year, **Megan Gayeski** '08 has served as the national vice chair for the American Medical Association—Medical Student Section. She recently graduated from the University of Michigan Medical School and will be completing her anesthesiology residency at Rush University Medical Center in Chicago.

Katie and **Jacob Gorkowski** '08 welcomed their first child, Abigail, born December 30.

Laura (Oman) '08 and **Paul St. Louis** '08 were married October 8, 2011. The couple resides in Davenport, Iowa.

Bret Wazny '08 and **Michelle Foy** '10 are engaged to be married on May 11, 2013, in Houghton. The couple currently lives in Charleston, South Carolina.

Daniel Rosenberg '09 married former Michigan Tech student **Rachel Boone** on June 30 at the top of Mont Ripley Ski Hill. Dan and Rachel have been together since 2006 and both work for Cargill in Wahpeton, North Dakota.

Anthony Santi '09 '11 (BSME, MBA) and **Melinda Ylitalo** '11 (Biomedical Engineering) were married May 26 in Rockford, Minnesota. They will be residing in the Baltimore–Washington, DC, metro area and say, "GO HUSKIES!"



Rachel Boone and Daniel Rosenberg '09 were married atop Michigan Tech's Mont Ripley Ski Hill in an uplifting ceremony on June 30.

PHOTO: BROCKIT

Transitions



C. Robert Baillod

*Chair and professor emeritus, civil and environmental engineering
1941-2012*

Charles Robert “Bob” Baillod, 71, a pioneer in the field of environmental engineering, passed away April 12. He came to the University in 1968 and led the Department of Civil and Environmental Engineering from 1991 to 2005. Baillod was a powerful advocate, said friend and colleague Professor Neil Hutzler. “He fought hard for the department,” Hutzler said. “He was always thinking about what would benefit the department and the University.”

Baillod’s research focused on water and wastewater engineering, with an emphasis on biological wastewater treatment. Throughout his career, he guided more than fifty students to graduate degrees. Among them was John Sandell ’86 ’92 ’95. “He was my advisor,” said Sandell, now an associate professor of chemical engineering. “Bob was a true professional with the kindest heart.”



Donna J. Michalek

*Assistant provost, professor of mechanical engineering–engineering mechanics
1963–2012*

Donna Michalek, 49, passed away on April 26 after a battle with cancer. She joined the faculty in 1993 and held numerous positions, including associate chair in mechanical engineering and assistant provost. In 2010, she left Michigan Tech for Mount Union University, where she was the founding member and chair of the Department of Engineering.

“Donna’s practical, straightforward approach to just about everything was so refreshing,” said President Glenn Mroz. “She said what she meant, and she meant what she said, which made her a joy to work with. She also laid the foundation for our accreditation effort, which was a huge task.”

A recipient of Michigan Tech’s Distinguished Teaching Award, the ASEE Dow Outstanding New Faculty Award, and the SAE Ralph R. Teetor Educational Award, Michalek served as a National Science Foundation panel reviewer. She worked tirelessly with the engineering sorority as a mentor and advisor, and the women’s basketball team came to rely on her homemade cookies.

A scholarship has been established in Donna’s memory. To give online, go to www.mtu.edu/donna-michalek-scholarship. You may also call the Michigan Tech Fund at 906-487-2310 or toll free at 877-386-3688 to give by credit card. Or you may mail a check to the Michigan Tech Fund, Michigan Technological University, 1400 Townsend Dr., Houghton, MI 49931-1295 noting that it supports the Donna Michalek Memorial Scholarship.

Retirements

The following faculty and staff retired from Michigan Tech this year. The years they first came to Michigan Tech are listed below.

Mary Ann Beckwith, professor, Visual and Performing Arts, 1973

Hugh Boyer, assistant professor, Social Sciences, 1969

Darlene Corrigan, custodian, Academic Office Building, 1975

Carl Dassbach, associate professor, Social Sciences, 1991

Edward Dessellier, building mechanic II, Dow Building, 1980

Margaret “Peg” Gale, dean, Forest Resources and Environmental Science, 1979

Clark Givens, professor, Mathematical Sciences, 1965

Cathy Greer, library assistant, Van Pelt and Opie Library, 1994

Andrew Gustafson, custodian, McNair Hall, 1998

Dennis Hagenbuch, director of intramurals, Kinesiology and Integrative Physiology, 1988

Paul Heikkinen, building mechanic, Student Development Complex, 1977

Pat Joyce, professor, Business and Economics, 1972

Diane Koskela, IT specialist, Information Technology Services, 1995

Charles Paoli, custodian, Student Development Complex, 1981

Janet Pikkarainen, administrative aide, Forest Resources and Environmental Science, 1995

Terry Reynolds, professor, Social Sciences, 1983

Dolores Romano, food service helper, Douglass Houghton Hall, 2006

John Rovano, director, Facilities Management, 1976

Daniel Schmitt, mail services specialist, University Marketing and Communications, 1990

Jeanne Schmitt, office assistant, Corporate Development, 1993

David Strong, senior programmer/analyst, Administrative Information Services, 1979

Robert Whipple, research engineer/scientist, Mechanical Engineering–Engineering Mechanics, 1980

In memoriam

The Michigan Tech family extends condolences to the relatives and friends of those who have passed away.

1932

Frederick M. Foster
Ray A. Wilder

1938

Charles J. Vanasse

1940

Paul V. Martin

1942

Louis A. Campana
Murdock H. LaChance
Wallace S. Tuttle

1943

Dr. John K. Rye

1944

Robert E. Sherman

1945

James R. Duiser

1946

Marvin H. Salisbury
Robert E. Turunen

1947

E. Paul Scott

1948

Kenneth A. Hamming
Peter M. Lucas

1949

Daniel J. Boland
Major General Norman G.
Delbridge Jr. (Retired)
James M. Keir
John H. Montgomery
Aldo M. Paradiso
Robert C. Perdzock

1950

Daniel B. Acciani
Willard O. Ashmore, PE
Joseph L. Freeman
Gordon P. Kallunki
William M. Miller
Harry W. Smathers
George A. Williams

1951

Joseph C. Calabro
Donald J. Cota
Louis C. Holstad, PE
Virgil J. Knierim, PE
Philip F. Segor
Lieutenant Colonel Donald T.
Sherry (Retired)

1952

Charles L. Drews
Herbert K. Fanning
James W. Frederickson
Howard W. Gray
Ellis C. Helge
James M. Klatt
Rev. Arthur W. Krumbach Jr.
John F. Pintar

1953

Mervin E. Farmer
James H. Freeman

1954

Tim D. Slaght

1955

Wendell E. Foote
Charles C. Kugel, PE
Harry Nelson

1956

Roland A. Consie
Roger C. Post
Jerome V. Sparapani

1957

Ralph N. Harrison
Harvey A. Hedlund
Mervin V. Johnson
Richard H. Palosaari

1958

James L. Tucker
Donald J. Woolston

1959

Robert A. Lloyd
David A. Saul

1960

Roger D. Arzt
James L. Beedy
Robert A. Skorseth

1961

Joseph F. Grabowski
Lowell S. Johnson
Arnold H. Laine

1963

Richard R. Erickson
Bruce A. W. Knivila

1964

David R. Treloar

1965

Randall B. Kinsey
Brian A. Turner

1966

Allan M. Alanko, PE

1967

George R. Pashley

1968

Philip R. Patana

1969

Dr. Frank C. Campbell
Steven R. Stocking, PE

1970

David J. Fiori

1971

Dennis T. Drugacz

1972

Robert D. Hupfer

1973

Thomas J. Kaderabek
Frank W. Rice

1974

Peter C. Nissila

1976

Eric L. Opland
Raymond W. Sherman
Robert J. Szczesny

1977

Joseph L. Butler

1978

Robin F. Righettini

1979

Thomas S. Andrew
Peter F. Gerbensky

1980

Scott E. Leu
Michael C. Thomas

1981

John C. DeWaha
James C. Savage

1984

Robin S. Vincek

1985

Tad J. McClellan

1986

David J. Tomasunas

1987

Michael J. Kolka

1988

Timothy W. Kaurala

1989

Henry J. Kricher

1993

Gregory J. Stark

2001

Kevin A. Hippe

2002

Robert C. Boughton

2003

Gregory J. Wright

2011

Eric B. Kisly

Donald C. Larson '60 was incorrectly included in "In Memoriam" in the Spring 2012 *Michigan Tech Magazine*. We apologize to Donald and his family for the error.

The fine print

Michigan Tech Magazine
(USPS 345-980)

Published three times a year by

University Marketing and
Communications
Michigan Technological University
1400 Townsend Drive
Houghton, MI 49931-1295

Postage is paid at Houghton, Michigan,
and additional
mailing offices.

Vice President for Student Affairs

Les Cook

Executive Director

Linda Baker

Editor

Marcia Goodrich

Designer

Clare Rosen

Photographer

Sarah Bird

Feedback

You can send your comments to
the editor, Marcia Goodrich, at
mlgoodri@mtu.edu.

Access our archives and the
latest electronic edition of the
Michigan Tech Magazine at
www.mtu.edu/magazine.

Contributors

Jennifer Donovan, John Gagnon,
Brenda Rudiger, Dan Schneider,
David McKay Wilson

Address changes

Email: gccolaro@mtu.edu
Phone: 906-487-3614

Alumni Records Office
Michigan Technological University
1400 Townsend Drive
Houghton, MI 49931-1295

Class notes

Class notes are derived from your
submissions to HuskyLink, [mtu.edu/
alumni/connect/huskylink](http://mtu.edu/alumni/connect/huskylink). You may
also submit your class notes to
techfund@mtu.edu.

Michigan Technological University is an
equal opportunity educational institution/
equal opportunity employer.



Generations of Discovery

The Campaign for Michigan Tech

RAY SMITH RETIRED AS MICHIGAN TECH'S PRESIDENT IN 1979 AND HAS BEEN A REGULAR DONOR EVER SINCE. He gives because support from alumni and friends is "absolutely critical" to the University's success and because he believes in the University's mission. When asked why he thought Tech was a worthy investment, he offered three reasons.

Research growth

"When I came to Michigan Tech over a half a century ago as head of the metallurgy department, total faculty research was only \$4,000. That went up almost fifteen-fold when I brought in my first grant, for \$59,000. I recognized then that you can't be a top-notch technological university without a strong research program, and it's even more true today. The current administration knows that and has done a great job of boosting research."

More women in engineering

"While I still worked in industry, I wondered why more women weren't involved in research and engineering. I came to Tech determined to change that—there were almost no female students here at the time—and we started the Women in Engineering program. Now there are more women at Tech than ever."

Excellence in athletics and academics

"I was always dedicated to athletics, so long as scholastic records are maintained. Now Tech has phenomenal student-athletes like the 2010–11 women's basketball team, which had an excellent GPA and went to the nationals. So my money goes to the athletes, through scholarships."

Choose where your money goes

Whether your passion is research, scholarships, or, like President Ray Smith, athletics, you can support the programs that are important to you. Or you can give that all-important gift to the Michigan Tech Annual Fund, which gives Michigan Tech the flexibility to fund immediate priorities.

The choice is yours. You have the power to help Michigan Tech fulfill its vision. Give and be part of it.

techfund@mtu.edu
906-487-2310
www.mtu.edu/giving

Ray Smith is retired and now lives with his wife, Rachel, in Green Valley, Arizona.

Michigan Tech

Create the Future

Michigan Technological University
1400 Townsend Drive
Houghton, MI 49931-1295



YOU'D HAVE TO BE, TO GO TO TECH. We have more snow, and more fun in the snow, than anyone else. *US News* ranks us among the top tier of national public universities. And our graduates can feel good (very good) about a 95 percent placement rate and the 12th highest starting salaries in the country.

To learn more about what's happening at Michigan Tech, check out www.mtu.edu/admissions on your laptop, tablet, or smartphone.

Michigan Technological University is an equal opportunity educational institution/equal opportunity employer.